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Hopgood, Calimafde, Judlowe & Mondolino  
60 East 42nd Street  
New York, NY 10165

EXAMINER

NGUYEN, KHIEM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/826,383

Applicant(s)

SHIGEYOSHI YOSHIDA

Examiner

Khiem D Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 22-28, 32-34 and 39-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21, 29-31 and 35-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of claims 1-21, 29-31, and 35-38 in Paper No. 9 is acknowledged. The traversal is on the ground(s) that there is no time frame specified in the Group II claims, so when (the supposed "during the formation of the substrate") in the process the magnetic loss member is introduced is not an element of the method claims. This is not found persuasive because the product as claimed can be made by another and materially different process. In the instant case the product as claimed can be made by another and materially different process, such as introducing the magnetic loss member during the formation of the substrate. Group II claims required uniformly forming a film of the magnetic loss member on the substrate member after removing the insulating film pattern. Thus, there is time frame specified in the Group II claims. Because these inventions are distinct for the reason given above and have acquired a separate status in the art as shown by their different classification.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-21, 29-31, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Awakura et al. (U.S. Patent 6,653,573).

In re claim 1, Awakura discloses a semiconductor bare chip having an integrated circuit formed on front surface thereof, wherein a magnetic loss film (**FIG. 6: 65**) is formed on back surface of the semiconductor bare chip (col. 8, lines 5-36 and **FIGS. 6-7**).

In re claim 2, Awakura discloses wherein the magnetic loss film is a granular magnetic thin film (col. 8, lines 5-24).

In re claim 3, Awakura discloses wherein the granular magnetic thin film is a sputtered film formed by a sputtering method (col. 9, line 48 to col. 10, line 12).

In re claim 4, Awakura disclose wherein the granular magnetic thin film is a vapor-deposited film formed by a vapor deposition method (col. 7, lines 2-22).

In re claim 5, Awakura disclose wherein a magnetic loss film is formed on back surface of the semiconductor wafer (**FIGS. 6-7**).

In re claim 6, Awakura discloses wherein the magnetic loss film is a granular magnetic thin film (**FIG. 6: 65**) (col. 8, lines 5-36).

In re claim 7, Awakura discloses wherein the granular magnetic thin film is a sputtered film formed by a sputtering method (col. 9, line 48 to col. 10, line 12).

In re claim 8, Awakura discloses wherein the granular magnetic thin film is a vapor-deposited film formed by a vapor deposition method (col. 7, lines 2-22).

In re claim 9, Awakura discloses wherein the magnetic loss member (**FIG. 6: 65**) is formed in a prescribed pattern in vicinity of the surface on one side of the

semiconductor substrate; and the magnetic loss member and semiconductor substrate region on the surface are uniformly covered with an insulating film (**FIG. 7: 71**) (col. 9, lines 22-29).

In re claim 10, Awakura discloses wherein the magnetic loss member (**FIG. 6: 65**) is formed over substantially entire surface of the semiconductor substrate (**FIGS. 6-7**).

In re claim 11, Awakura discloses wherein the prescribed pattern is formed by the magnetic loss member and is a striped pattern (**FIGS. 6-7**).

In re claim 12, Awakura discloses wherein the prescribed pattern is formed by the magnetic loss member and is a lattice pattern (**FIGS. 6-7**).

In re claim 13, Awakura discloses wherein the prescribed pattern is formed by the magnetic loss member and is an island pattern (**FIGS. 6-7**).

In re claim 14, Awakura discloses wherein the insulating film comprises at least one material selected from a group consisting of silicon oxide, silicon nitride, and silicon nitride oxide (col. 9, lines 22-29).

In re claim 15, Awakura discloses a semiconductor substrate having a plurality of magnetic loss members (**FIG. 6: 65**) formed in a part thereof, wherein said magnetic loss members are formed in a prescribed pattern, each of the magnetic loss members being formed on an inside surface of each semiconductor device region which is separated by dividing the semiconductor substrate (**FIGS. 6-7**).

In re claim 16, Awakura discloses a semiconductor substrate formed by joining a first semiconductor substrate member and a second semiconductor substrate member

together, and having a magnetic loss member (**FIG. 6: 65**) formed in a part thereof (**FIGS. 6-7**), wherein at least one semiconductor substrate member of the first semiconductor substrate member and the second semiconductor substrate member is provided with a trench, which is formed on the surface thereof that is joined together, and the magnetic loss member is embedded inside said trench (col. 8, lines 5-36 and **FIGS. 6-7**).

In re claim 17, Awakura discloses wherein the trench comprises a plurality of trench portions formed in a prescribed pattern, each of the trench portions being formed on an inside surface of each semiconductor device region which is separated by dividing the semiconductor substrate (col. 8, lines 5-36 and **FIGS. 6-7**).

In re claim 18, Awakura discloses wherein said magnetic loss member is composed of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y or a mixture thereof, and Y is any one of, or a mixture of, F, N, and O (col. 12, lines 42-58).

In re claim 19, Awakura discloses wherein material of the semiconductor substrate, the first semiconductor substrate member, and the second semiconductor substrate member, respectively, consists of silicon (col. 8, lines 5-36 and **FIGS. 6-7**).

In re claim 20, Awakura discloses wherein material of the semiconductor substrate, the first semiconductor substrate member, and the second semiconductor substrate member, respectively, consists of gallium-arsenic (col. 8, lines 5-36 and **FIGS. 6-7**).

In re claim 21, Awakura discloses a plurality of semiconductor devices that is repeatedly formed in a prescribed pattern on the semiconductor substrate according to claim 9, wherein each of the plurality of semiconductor devices comprises at least one unit region in which the magnetic loss member is formed (col. 8, lines 5-36 and FIGS. 6-7).

In re claim 29, Awakura discloses an electromagnetic noise suppression body comprising an electrically conductive soft magnetic thin film; and having a structure, wherein said soft magnetic thin film is finely divided into configuring units sufficiently small relative to wavelength of electromagnetic noise; and conduction of DC current between those configuring units is interrupted (col. 7, line 2 to col. 8, line 36).

In re claim 30, Awakura discloses wherein the soft magnetic thin film has an aspect ratio of 10 or greater (col. 7, line 2 to col. 8, line 36).

In re claim 31, Awakura discloses wherein the soft magnetic thin film is composed of a composition of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y or a mixture thereof, and Y is any one of, or a mixture of, F, N, and O, and has a granular structure (col. 12, lines 42-58).

In re claim 35, Awakura discloses an electromagnetic noise suppression body for suppressing conductive electromagnetic noise, comprising an electrically conductive soft magnetic thin film attached in vicinity above a microstrip line or signal transmission line similar thereto, wherein the electrically conductive soft magnetic thin film is of a shape having a width that is substantially equivalent to or narrower than line width of the

microstrip line or signal transmission line similar thereto (col. 10, line 66 to col. 12, line 17).

In re claim 36, Awakura discloses wherein the electromagnetic noise suppression body is attached so that the axis of hard magnetization thereof is substantially parallel to the width direction of the microstrip line or signal transmission line similar thereto (col. 11, line 22 to col. 12, line 17 and **FIG. 11**).

In re claim 37, Awakura discloses wherein the soft magnetic thin film of a shape having a width that is substantially equivalent to or narrower than line width of the microstrip line or analogous signal transmission line has an aspect ratio in width direction of 10 or greater (col. 7, line 2 to col. 8, line 36).

In re claim 38, Awakura discloses wherein the soft magnetic thin film is composed of a composition of M-X-Y, where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y or a mixture thereof, and Y is any one of, or a mixture of, F, N, and O, and has a granular structure (col. 12, lines 42-58).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.N.

May 25, 2004

A handwritten signature in black ink, appearing to read 'W. David Coleman', enclosed within a large, loopy oval shape.

**W. DAVID COLEMAN  
PRIMARY EXAMINER**